

**In the Claims:**

Please cancel claims 1-32 without prejudice or disclaimer.

Please amend the remaining claims as follows:

3433. (Currently Amended) A method of supplying to the central nervous system of a patient a peptide that binds an opioid receptor or that interferes with binding of substance P to its receptor, comprising:

(a) obtaining allogenic muscle cells from the patient and preparing an in vitro culture;

(b) transducing the culture of (a) with DNA encoding the peptide, such that the myogenic cells express the peptide, then

(c) introducing the transduced myogenic cells as a suspension to a muscle from the patient, the muscle selected from the group consisting of a paraspinal muscle, levator scapulae muscle, muscles between laminae IV and V of the spinal cord and neck muscle, so that the peptide is produced in proximity to the spinal cord of the patient.

3534. (Currently Amended) The method of claim 33, wherein step (a) comprises the mechanical stimulation of the patient's skeletal muscle tissue to produce a reservoir of satellite myoblast cells prior to removal of the satellite myoblast cells for in vitro culture.

3635. (Currently Amended) The method of claim 34, wherein the mechanical stimulation is carried out by numerous needle probings or by sonication.

3736. (Currently Amended) The method of claim 34, wherein the satellite cells are allowed to develop for about 3 days after mechanical stimulation and before their harvest.

3837. (Currently Amended) The method of claim 33, wherein more than 1 billion cells are cultured for administration into the patient.

3938. (Currently Amended) The method of claim 33 wherein step (c) comprises injecting the transduced myogenic cells diagonally through muscle fibers.

4039. (Currently Amended) The method of claim 33 wherein large chondroitin-6-sulfate proteoglycan is added to the suspension of cells prior to administering the cells to the patient.

4140. (Currently Amended) The method of claim 4039, wherein large chondroitin-6-sulfate proteoglycan is added to a final concentration of between about 5 micromolar to about 5 millimolar.

4241. (Currently Amended) The method of claim 33, wherein insulin is added to the suspension of cells prior to administering the cells to the patient.

4342. (Currently Amended) A method of supplying to the central nervous system of a patient a peptide that binds an opioid receptor or that interferes with binding of substance P to its receptor, comprising:

- (a) obtaining allogenic muscle cells from the patient and preparing an in vitro culture;
- (b) transducing the culture of (a) with DNA encoding the peptide, such that the myogenic cells express the peptide, then

- (c) introducing at least 1 billion cells from (b) as a suspension into a patient muscle or into a region that contains fat cells.

4443. (Currently Amended) The method of claim 4342, wherein step (a) comprises the mechanical stimulation of the patient's skeletal muscle tissue to produce a reservoir of satellite myoblast cells prior to removal of the satellite myoblast cells for in vitro culture.

4544. (Currently Amended) The method of claim 4443, wherein the mechanical stimulation is carried out by numerous needle probings or by sonication.

4645. (Currently Amended) The method of claim 4443, wherein the satellite cells are allowed to develop for about 3 days after mechanical stimulation and before their harvest.

4746. (Currently Amended) The method of claim 4342, wherein about 10 billion progeny myoblast cells are cultured for administration into the patient.

4847. (Currently Amended) The method of claim 4342, wherein step (c) comprises injecting the transduced myogenic cells diagonally through muscle fibers.

4948. (Currently Amended) The method of claim 4342, wherein large chondroitin-6-sulfate proteoglycan is added to the suspension of cells prior to administering the cells to the patient.

5049. (Currently Amended) The method of claim 4948, wherein large chondroitin-6-sulfate proteoglycan is added to a final concentration of between about 5 micromolar to about 5 millimolar.

5150. (Currently Amended) The method of claim 4948, wherein insulin is added to the suspension of cells prior to administering the cells to the patient.

5251. (Currently Amended) The method of claim 4342, wherein the cells are introduced into a region that contains fat cells.